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Prevention of adhesion bands by ibuprofen-loaded PLGA nanofibers.

Jamshidi-Adegani F[1,2], Seyedjafari E[3], Gheibi N[4], Soleimani M[2,5], Sahmani M[6].

Author information

1 Dept. of Molecular Medicine, School of Medicine, Qazvin University of Medical Science, Qazvin, Iran.
2 Dept. of Molecular Biology and Genetic Engineering, Stem Cell Technology Research Center, Tehran, Iran.
3 Dept. of Biotechnology, College of Science, University of Tehran, Tehran, Iran.
4 Dept. of Physiology and Medical Physics, Qazvin University of Medical Sciences, Qazvin, Iran.
5 Dept. of Hematology, Faculty of Medical Science, Tarbiat Modares University, Tehran, Iran.
6 Dept. of Clinical Biochemistry and Genetics, Cellular and Molecular Research Center, Faculty of Medicine, Qazvin University of Medical Sciences, Qazvin, Iran.

Abstract

In this study, prevention of the adhesion bands and inflammatory features has been investigated using poly (lactic-co-glycolic acid)-ibuprofen (PLGA-IB) nanofibrous meshes in a mice model. To find the optimized membrane for prevention of postoperative adhesion bands, we have compared PLGA-IB group with PLGA, IB, and control groups in a mice adhesion model. Two scoring adhesion systems were used to represent the outcome. According to the results obtained in this study, the PLGA-IB nanofiber membrane showed a greater reduction in adhesion band than other groups. In conclusion, among FDA-approved polymers and drugs, PLGA-IB meshes could be applicable as a potential candidate for prevention of postoperative abdominal inflammation and adhesion bands formation. © 2016 American Institute of Chemical Engineers Biotechnol. Prog., 32:990-997, 2016.

KEYWORDS: ibuprofen; intraperitoneal adhesion; poly(lactic-co-glycolic acid)

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